

What is claimed is:

1. An abrasive article comprising:

a backing; and

a plurality of features, said features further comprising a binder and abrasive particles,

5 wherein said features have a base and at least three sides, the angle between said base and one of said sides forming a positive rake angle.

2. The abrasive article of claim 1 wherein at one of said abrasive features further includes a planar top portion that is angled with respect to said base.

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3. The abrasive article of claim 2, further including abrasive particles on the planar top portion of said abrasive features.

4. The article of claim 1, wherein the body includes a region or point located most
15 distally from the base, and further wherein the region or point projects outside the base perimeter.

5. The abrasive article of claim 4 wherein at least one of said abrasive features further includes a top planar section that is angled with respect to said base.

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6. A method of making an abrasive article comprising:

providing a tool including a pattern for forming abrasives features;

placing abrasive particles in the tool;

filling the tool with a slurry;

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contacting the slurry with a backing; and

curing the slurry to form abrasive features including a top portion bonded to said abrasive particles and a bottom portion bonded to said backing.

7. The method of claim 6, wherein providing a tool includes providing a tool for forming abrasives features including a planar top.
8. The method of claim 7, wherein the planar top is angled with respect to a reference plane defined by the backing.
9. The method of claim 7, wherein the abrasive particles are aluminum oxide.
10. An abrasive article comprising:
a backing; and
a plurality of abrasive features on the backing, each of the abrasive features including a base and a body, wherein the body is defined by four surfaces, and wherein at least one of the surfaces includes an undercut portion.
11. The article of claim 10, further including a planar surface opposite the base.
12. The article of claim 11, further including abrasive particles disposed on the planar surface.
13. The article of claim 12, wherein the planar surface is angled with respect to the base.
14. The article of claim 12, wherein the undercut portion includes a radiused section adjacent the base.
15. The article of claim 10, wherein the undercut portion includes a radiused section adjacent the base.
16. The abrasive article of claim 10, wherein the plurality of features are arranged in an array wherein each undercut portion is oriented in the same direction.

17. The abrasive article of claim 16, wherein the array is oriented at a bias on the abrasive article.

5 18. A feature for an abrasive article comprising:
a base and a body, the body including four sidewalls, wherein at least one sidewall forms a surface having a positive rake angle.

10 19. The feature of claim 18, further including a planar top section disposed distally from the base.

20. The feature of claim 19, wherein the planar top section is oriented substantially parallel to the base.

15 21. The feature of claim 19, wherein the planar top section is oriented at an angle of more than about 2 degrees with respect to the base, and further wherein the planar top section slopes away from surface having a negative rake angle.

20 22. The feature of claim 19, further including abrasive particles disposed on the planar top section.

23. The feature of claim 18, wherein the surface includes a radiused portion adjacent the base.

25 24. The feature of claim 22, wherein the surface includes a radiused portion adjacent the base.

25. A tool for making any of the abrasive articles in claims 1-17.

26. An belt for abrading material comprising:
a backing defining a belt shape; and
a plurality of abrasive composites on the backing, each of the abrasive composites including a base and a body, wherein the body is defined by four surfaces, and wherein at least one of the surfaces includes an undercut portion.
27. The belt of claim 26, further including a planar surface opposite the base.
28. The belt of claim 27, further including abrasive particles disposed on the planar surface.
29. The belt of claim 28, wherein the planar surface is angled with respect to the base.
30. The belt of claim 28, wherein the undercut portion includes a radiused section adjacent the base.
31. The belt of claim 26, wherein the undercut portion includes a radiused section adjacent the base.
32. The belt of claim 26, wherein the plurality of composites are arranged in an array wherein each undercut portion is oriented in the same direction.
33. The belt of claim 32, wherein the array is oriented at a bias on the abrasive article.
34. A method of abrading a wooden workpiece, the method comprising:
contacting an abrasive article to the workpiece, wherein the abrasive article includes:
a backing;

a plurality of abrasive composites on the backing, each of the abrasive composites including a base and a body, wherein the body is defined by four surfaces, and wherein at least one of the surfaces includes an undercut portion, and wherein a section of the undercut portion engages the workpiece before any other surface of the body.

35. The method of claim 34, wherein said contacting an abrasive article further includes contacting the abrasive article including a planar top section, and wherein abrasive particles are disposed on the top section.

36. The method of claim 34, wherein said contacting an abrasive article further includes contacting the abrasive article including a radiused portion adjacent the base on the undercut portion.

37. The method of claim 36, further including removing swarf via the radiused portion.

38. The method of claim 34, wherein the backing is a belt.